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SUPREME COURT OF THE UNITED STATES

OCTOBER TERM, 1945

No. 150

CLARAGE FAN COMPANY,

Petitioner,

vs.

B. F. STURTEVANT COMPANY

PETITION FOR A WRIT OF CERTIORARI TO THE CIRCUIT COURT OF APPEALS FOR THE SIXTH CIRCUIT AND BRIEF IN SUPPORT THEREOF.

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INDEX

Subject Index

	Page
Petition for writ of certiorari	1
Summary statement of matter involved	2
First Hagen Patent	3
Second Hagen Patent	5
Jurisdiction	7
Questions presented	7
Reasons relied upon for allowance of the writ	10
Prayer	12
Brief in support of petition	13
Opinions of the courts below	13
Statement	13
Specification of errors	13
Summary of argument	13
Argument	13
Point I—The Court of Appeals for the Sixth Circuit appears to have overlooked the public interest in applying the rule of res adjudicata in this case and in not following the application of the rule of upholding the public interest as this Court stated should be done in Mercoid Corporation v. Mid-Continent Investment Co. 320 U. S. 661, 88 L. Ed. 376	13
Point II—The Court of Appeals for the Sixth Circuit has failed to give proper consideration to the public interest in holding the second Hagen patent valid, which patent the patentee Hagen now admits is merely an adaptation of the structure of the first Hagen patent, which was applied to an induced draft fan, to a forced draft fan (R. 114), and the fact that such adaptation is taught by the art; Cuno Engineering Corporation v. Automatic Devices Corporation, 314 U. S. 84; 86 L. Ed. 58; Sinclair & Carrol Company, Inc., v. Interchemical Corporation, announced May 21, 1945	16

Page

Point III—The Court of Appeals for the Sixth Circuit has failed to guard the public interest in not holding the second Hagen patent invalid on this record which shows that the adjustment of the vanes through an angle of 90 degrees is merely a matter of mechanics, and that it is merely a matter of mechanics to make the vanes of the first Hagen patent adjustable through that range of degrees and that such range of adjustment of vanes and the arrangement of the pivots of the vanes obliquely to the rotor axis is not only taught by the art of record but was done by Hagen and his associates purely as a mechanical expedient to minimize obstruction of the eye of the fan 17

Point IV—The Court of Appeals for the Sixth Circuit, by adopting and applying respondent's present theory of 100% overlapping of vanes in fully open position and construing the claims to cover petitioner's structures Exhibits B and C because they have vanes overlapping in space, has disregarded the public interest to the extent that this interpretation of the claims would make them apply to most multiple vane controls and most of the prior art patents, many of which have expired and are in the public domain. 19

Point V—The Court of Appeals for the Sixth Circuit has overlooked the public interest in holding petitioner's Exhibits B and C to infringe both patents in suit on the basis of results accomplished, and has further overlooked the public interest to the extent of giving the claims such scope as to embrace the prior art structures and has given the mechanical Claim 2 of the first Hagen patent the effect and scope of the method Claim 1 held invalid by the Court of Appeals

Page

for the First Circuit, and has unwarrantedly extended the finding of the Court of Appeals for the First Circuit 21

Point VI—This Court in the public interest should exercise its supervisory authority and review the decision of the Court of Appeals for the Sixth Circuit, determining the validity of both patents in the light of the record in this case, the admissions of the respondent herein and the respondent's presently urged theory of 100% overlapping of the vanes in fully open position, which is an incident to several prior art patents. If this Court should determine the patents in suit to be valid the rights of the public should be definitely determined by fully defining the meaning and scope of the claims, inasmuch as this has not been done by any court considering them but which, without attempting to apply to Exhibits B and C the Court of Appeals for the Sixth Circuit has, on the basis of results accomplished thereby, extended to cover prior art patents having spin control vanes overlapping in space 22

Conclusion 24

Table of Cases Cited

B. F. Sturtevant Co. v. *Massachusetts Hair & Felt Co.*, 122 F. (2d) 900 20

Cuno Engineering Corporation v. *Automatic Devices Corporation*, 314 U. S. 84; 86 L. Ed. 58 8,10,16,17,19

DeForest Radio Corporation v. *General Electric Co.*, 283 U. S. 664 17

General Electric Company v. *Wabash Appliance Corporation*, 304 U. S. 364, 82 L. Ed. 1402 8,19

Market Street Cable Railway Co. v. *Rowley*, 155 U. S. 621. 17

Mercoid Corporation v. *Mid-Continent Investment Co.*, 320 U. S. 661, 88 L. Ed. 376 7,10,13,15,21,23

Page

Motion Picture Patents Corporation v. *Universal Film Corporation*, 243 U. S. 502 21,23
Pennock v. *Dialogue*, 2 Pet. 1 21
Sinclair & Carrol Company, Inc. v. *Interchemical Corporation*, Announced May 21, 1945 (unreported), 8,10,16,17,19,21,23
United Carbon Company v. *Binney & Smith Co.*, 317 U. S. 228, 87 L. Ed. 232 8
United States v. *Masonite Corporation*, 316 U. S. 265 ... 21,23

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PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES CIRCUIT COURT OF APPEALS FOR THE SIXTH CIRCUIT.

To the Honorable the Chief Justice of the United States, and the Associate Justices of the Supreme Court of the United States:

Your petitioner, Clarage Fan Company, prays for a writ of certiorari to the United States Circuit Court of Appeals for the Sixth Circuit to review the judgment of that Court entered on the 4th day of April, 1945 (R. 412), 65 USPQ 203, as amended on the 22nd day of May, 1945 (R. 423), not reported.

A certified transcript of record in the case, including proceedings in said Circuit Court of Appeals, is furnished herewith in compliance with the rules of this Court.

Summary Statement of Matter Involved

This suit was brought by the respondent against the petitioner for infringement of Claim 2 of the first Hagen patent 1,846,863 for Fan and Method of Operating Same (R. 263), and all four claims of the second Hagen patent 1,989,413, for Centrifugal Fan (R. 264). The United States District Court for the Western District of Michigan held all claims in suit valid and infringed by petitioner's structures exemplified by Exhibit 3 and Exhibits B and C (Findings of Fact and Conclusions of Law, R. 36). The Court of Appeals for the Sixth Circuit affirmed the judgment of the District Court (R. 412), 65 USPQ 203, and on May 22, 1945, amended its judgment (not reported).

The two Hagen patents here in suit were involved in the case of *B. F. Sturtevant Company* (*respondent herein*) v. *Massachusetts Hair & Felt Company*, in the United States District Court for the District of Massachusetts, charging infringement of the claims here involved and also method Claim 1 of the first Hagen patent by Exhibit 3.

That case was referred to a Master who found method Claim 1 of the first Hagen patent invalid, Claim 2 valid and infringed, and all four claims of the second Hagen patent invalid. The Master's finding was affirmed by the District Court (31 Fed. Supp. 975). The Court of Appeals for the First Circuit affirmed the District Court with respect to the first Hagen patent, holding method Claim 1 invalid and Claim 2 valid and infringed, but reversed the finding of the Master and the judgment of the District Court in respect to the second Hagen patent, holding all four claims valid and infringed (122 Fed. (2d) 900; Petition for Rehearing denied 124 Fed. (2d) 95; Petition for Writ of Certiorari denied, 315 U. S. 823, 86 L. Ed. 1219).

Petitioner assumed the defense of the Massachusetts case. Exhibit 3 is the same as the structure held to infringe in

the Massachusetts case. Exhibits B and C were not involved in that case.

First Hagen Patent

The principle of controlling the output of a fan by varying the spin of the entering air in the direction of rotation of the rotor of the fan is admittedly old and in fact is referred to as "ancient." This control is best accomplished by a plurality of coacting pivotally adjustable vanes and this is old in the art.

The first Hagen patent (R. 263) is an adaptation of this ancient principle of variable spin control to an induced draft fan in which the vanes are arranged in an annular series in a scroll-shaped inlet, the axes of the vanes being parallel to the axis of the rotor. The vanes are connected for simultaneous operation which is old in the art, for example in Eickhoff (R. 356, Chart Exhibit P) and the Beaudrey French patent (R. 392, Chart Exhibit U). The vanes of this Hagen patent are curved and the Court in the Massachusetts case distinguished Hagen from Eickhoff's straight vanes, pointing out the differences, 122 F. (2d) 900, at 910. On page 911 (also R. 285) the Court of Appeals for the First Circuit summarized what it considered to be Hagen's contribution in the following language:

> "It does not seem to us that it would have occurred to a mechanic or designer skilled in the art either to disregard increasing shock-loss by radically increasing the spin of the entering air *or to construct vanes of cylindrical contour* for the purpose of providing passages between them 'of substantially uniform cross-section as the vanes are moved to closed position,' so that control to minimum capacity by spin rather than by throttling would result. Thus the finding of patentable invention made by the master and confirmed and adopted by the court must stand." (Italics ours.)

Hagen sought to pre-empt this ancient principle of spin control by method Claim 1 of the first Hagen patent which the Court of Appeals for the First Circuit held invalid for lack of patentable invention. This claim was held to be invalid on the ground that if patentable novelty was present in Claim 1 it must reside in adjusting the spin through a range from substantially the full capacity of the fan to a minimum capacity thereof with a substantially tangential admission of fluid, such variation through this range being effected by increasing the spin component while reducing the area, as defined in the concluding clause of Claim 1, the claim being as follows:

> "1. A method of operating a centrifugal fan which consists in rotating the fan wheel at constant speed and controlling the output of the fan in accordance with the variations in demand thereon by supplying fluid to the fan with a spin component of velocity in the direction of rotation of the wheel, adjusting the spin through a range to produce variations in output from substantially the full capacity of the fan to a minimum capacity thereof with a substantially tangential admission of fluid, said variation from maximum output to lower outputs being effected by increasing the spin component while reducing the area through which the fluid passes at a rate not proportionately greater than the rate of increase of the spin component."

The Master held that this was merely extending the range of control by a known method and that any novelty in Claim 1 resides in results rather than method. Both Courts affirmed the finding.

Claim 2 of the first Hagen patent, held valid, is as follows:

> "2. The combination with a constant speed motor, of a centrifugal fan having a rotor, an inlet, a plurality of vanes in the inlet forming fluid directing passages to admit fluid to the rotor with a spin component of velocity in the direction of rotation of the rotor, the

vanes being adjustable to vary the output of the fan through a range from maximum capacity with the vanes open to a minimum capacity with a substantially tangential admission of fluid when the vanes are closed, adjacent vane surfaces continuously approaching parallelism and having extended overlapping portions shaped to define passages of substantially uniform cross-section as the vanes are moved toward closed position."

This must be construed to define what the Court in the Massachusetts case stated Hagen's contribution to be as distinguished from what would have occurred to a mechanic or designer in the paragraph we have quoted.

Second Hagen Patent

The second Hagen patent (R. 264), as admitted by the inventor Hagen, is merely an adaptation of the first patent to a forced draft fan (R. 114) "* * * That is all that it is supposed to be." This adaptation was old and taught by the art; in fact, some of the prior art patents show both adaptations in single patents, as in Moody 1,460,428 (R. 357, Chart Exhibits Q and R).

Whether an induced draft fan or a forced draft fan should be installed in a particular system is a matter of engineering and sometimes both are employed in a single system (R. 94), the forced draft to push the air into the system and the induced draft to pull it out of the system. With both induced and forced draft the spin control vanes are arranged in advance of the rotor; in the induced draft commonly in a scroll-shaped inlet chamber connected to a conduit, and in the forced draft in an inlet open to the air.

In the first Hagen patent the vanes are arranged in an annular series with their pivot axes parallel to the axis of the rotor. In the second Hagen patent they are arranged in an annular series with their axes oblique to the axis of

the rotor. Both arrangements are old in the art, Moody (R. 357) being an example. While the axes of the vanes in this patent are shown in the drawing at right angles to the axis of the rotor, the specification states,

> "The guide vane axes in Fig. 2 are shown in the same plane although they might be equally well contained in a conical surface having its apex in the pump axis."

In adapting the first Hagen patent to a forced draft fan the axes of the vanes were first arranged perpendicular to the axis of the rotor; as this served to choke the inlet the design was changed by moving the vanes forward in the conical throat (Hagen, R. 89).

Claim 1, which may be regarded as typical, is as follows:

> "1. A centrifugal fan comprising a rotor, a casing having an eye and a substantially conical inlet passage leading to the eye, and a plurality of vanes in the inlet pivoted on axes which are oblique to the rotor axis and substantially at right angles to the conical inlet, the vanes being adjustable about their axes from substantially wide open position in which they do not appreciably obstruct the flow of gas to the rotor through an angle of nearly 90 degrees to a closed position, throughout which adjustment they direct the entering gas to the rotor with an appreciable spin, the work done by the fan on the gas being variable in accordance with the adjustable spin introduced by the vanes at different positions."

Respondent's expert Berry states that it is a matter of mechanics to provide a 90-degree range of adjustment of the vanes in the first Hagen patent (R. 138).

Claim 1 concludes with the statement,

> "the work done by the fan on the gas being variable in accordance with the adjustable spin introduced by the vanes at different positions".

This is the same as in the first Hagen patent and in the ancient art, the principle having been discovered in the Eighteenth Century by a Swiss mathematician and physicist named Euler and reduced to an equation.

The added hub element on the rotor axis of Claim 2 of the second Hagen patent is old in the art. The added "means for simultaneously and uniformly adjusting the vanes about their axes" of Claims 3 and 4 are common in the old art.

Jurisdiction

1. This is a suit arising under the Patent Laws of the United States, Judicial Code, Sec. 24 (7) (28 U. S. C., Sec. 41 (7).

2. The jurisdiction of this Court is invoked under Section 240 (a) of the Judicial Code, as amended by the Act of February 13, 1925 (28 U. S. C., Sec. 347).

3. The date of the judgment which petitioner seeks to have reviewed is April 4, 1945 (R. 412), as amended May 22, 1945 (R. 423).

Questions Presented

1. Whether public interests are not paramount in the application of rules of res adjudicata in this cause as was held by this Court in *Mercoid Corporation* v. *Mid-Continent Investment Co.*, 320 U. S. 661, 88 L. Ed. 376.

2. Whether a claim of a patent should be held valid which is so indefinite and vague as to permit the owner of the patent (respondent) to urge one interpretation in the *Massachusetts* case in order to support a charge of infringement by Exhibit 3, and to advance another theory of interpretation in the present case in order to support a charge of infringement by Exhibits B and C. The interest of the public and equity to the petitioner demand that a claim capable of being so manipulated should be held invalid

under the established rules of law applied to this Court in

United Carbon Company v. *Binney & Smith Co.*, 317 U. S. 228, 87 L. Ed. 232; and

General Electric Company v. *Wabash Appliance Corporation*, 304 U. S. 364, 82 L. Ed. 1402.

3. Whether public interest should not be considered in determining validity of the second Hagen patent which admittedly is merely an adaptation of the first Hagen patent, applied to an induced draft fan, to a forced draft fan (R. 114), such adaptation being taught by several prior patents,

Sinclair & Carrol Company, Inc., v. *Interchemical Corporation*, Announced May 21, 1945 (unreported);

Cuno Engineering Corporation v. *Automatic Devices Corporation*, 314 U. S. 84, 86 L. Ed. 58.

4. Whether the Court of Appeals for the Sixth Circuit, in view of the statement of the inventive step which the Court of Appeals for the First Circuit held was taken by Hagen, properly held petitioners structures Exhibits B and C to infringe the patents in suit, and whether the Court of Appeals for the Sixth Circuit has not unwarrantedly extended the findings of the Court of Appeals for the First Circuit to the detriment of public interest and petitioner's rights.

5. Whether respondent's urging the theory of 100% overlap when the vanes are in fully open position is such a shift of theory from that taken by respondent in the *Massachusetts* case as warrants refusal to apply the doctrine of res adjudicata.

6. Whether overlapping of vanes in space should be regarded as imparting patentable novelty to the patents in suit or in determining infringement thereof by Exhibits B and C when such overlapping in space is an incident to all

prior art multiple vane spin controls to the same degree as is present in petitioner's structures Exhibits B and C, held to constitute infringements because of such overlapping in space, the public interests being thereby disregarded and permitting respondent to reclaim and recapture admittedly ancient principles of spin control and structures of patents long since expired.

7. Whether the application of the doctrine of res adjudicata to Exhibit 3 justifies holding Exhibits B and C to constitute infringement on the ground that they produce substantially the same results in spin control in substantially the same way as Exhibit 3 when, as a matter of fact, they are within the range of spin control of structures embodying the prior art, and Exhibit B has substantially the same as and Exhibit C has substantially less range of spin control than structures embodying the prior art, and this spin control is accomplished in both Exhibits B and C in the same way and by the same means as the spin controls of the prior art.

8. Whether this Court should in the public interest exercise its supervisory authority in reviewing the decision in this cause, not only determining the validity of both patents in suit in the light of the record in the present case, the admissions of the respondent herein, and the respondent's presently urged theory of 100% overlapping of vanes in fully open position which is incident to several prior art patents, but also, if the patents are valid or determined to be valid, defining the rights of the public by defining the meaning and scope of the claims, which has not so far been done by any court considering them, but which have been extended by the Court of Appeals for the Sixth Circuit to include practically all prior art patents on multiple vane spin control.

Reasons Relied Upon for Allowance of the Writ

I. The Court of Appeals for the Sixth Circuit appears to have overlooked the public interest in applying the rule of res adjudicata in this case and in not following the application of the rule of upholding the public interest as this Court stated should be done in *Mercoid Corporation* v. *Mid-Continent Investment Co.*, 320 U. S. 661, 88 L. Ed. 376.

II. The Court of Appeals for the Sixth Circuit has failed to give proper consideration to the public interest in holding the second Hagen patent valid, which patent the patentee Hagen now admits is merely an adaptation of the structure of the first Hagen patent, which was applied to an induced draft fan, to a forced draft fan (R. 114), and the fact that such adaptation is taught by the art;

Cuno Engineering Corporation v. *Automatic Devices Corporation*, 314 U. S. 84; 86 L. Ed. 58;

Sinclair & Carrol, Inc. v. *Interchemical Corporation*, announced May 21, 1945 (unreported).

III. The Court of Appeals for the Sixth Circuit has failed to guard the public interest in not holding the second Hagen patent invalid on this record which shows that the adjustment of the vanes through an angle of 90 degrees is merely a matter of mechanics, and that it is merely a matter of mechanics to make the vanes of the first Hagen patent adjustable through that range of degrees and that such range of adjustment of vanes and the arrangement of the pivots of the vanes obliquely to the rotor axis is not only taught by the art of record but was done by Hagen and his associates purely as a mechanical expedient to minimize obstruction of the eye of the fan.

IV. The Court of Appeals for the Sixth Circuit, by adopting and applying respondent's present theory of 100%

overlapping of vanes in fully open position and construing the claims to cover petitioner's structures Exhibits B and C because they have vanes overlapping in space, has disregarded the public interest to the extent that this interpretation of the claims would make them apply to most multiple vane controls and most of the prior art patents, many of which have expired and are in the public domain.

V. The Court of Appeals for the Sixth Circuit has overlooked the public interest in holding petitioner's Exhibits B and C to infringe both patents in suit on the basis of results accomplished, and has further overlooked the public interest to the extent of giving the claims such scope as to embrace the prior art structures and has given the mechanical Claim 2 of the first Hagen patent the effect and scope of the method Claim 1 held invalid by the Court of Appeals for the First Circuit, and has unwarrantedly extended the finding of the Court of Appeals for the First Circuit.

VI. This Court in the public interest should exercise its supervisory authority and review the decision of the Court of Appeals for the Sixth Circuit, determining the validity of both patents in the light of the record in this case, the admissions of the respondent herein and the respondent's presently urged theory of 100% overlapping of the vanes in fully open position, which is an incident to several prior art patents. If this Court should determine the patents in suit to be valid the rights of the public should be definitely determined by fully defining the meaning and scope of the claims, inasmuch as this has not been done by any court considering them but which, without attempting to apply to Exhibits B and C the Court of Appeals for the Sixth Circuit has, on the basis of results accomplished thereby, extended to cover prior art patents having spin control vanes overlapping in space.

Prayer

WHEREFORE, your petitioner respectfully prays that a writ of certiorari be issued to the Court of Appeals for the Sixth Circuit to the end that this cause may be reviewed and determined by this Court in accordance with the principles of law heretofore announced by it and that the judgment of the Court of Appeals as to the finding of res adjudicata and the application of the rules of res adjudicata in this cause be reversed; that the finding of validity of Claim 2 of Hagen patent 1,846,863 and of each of the four claims of the Hagen patent 1,989,413 and the finding of infringement of all of said claims by petitioner's structures Exhibits B and C be reversed; and that petitioner be granted such other and further relief as may be proper.

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